UNION CARBIDE

NUCLEAR DIVISION NEWS

A Newspaper for Employees of the Nuclear Division, Union Carbide Corporation

Vol. 5 — No. 11 June 6, 1974

QUESTION BOX ??

If you have questions on company policies, benefits, etc. or any other problems with which we might help, just let us know. Drop your inquiry to the Editor, Nuclear Division News. *(Or telephone it in to your plant news representative.) You may or may not sign your name. It will not be used in the paper.*

Questions are referred to the proper authorities for accurate answers. Each query is given serious consideration for publication.

Answers may be given to employees personally if they so desire.

QUESTION: Why did a recent answer in the "Question Box" state that there are no weekly or hourly salaried employees working as consultants in the Nuclear Division, when in fact, there are several at ORNL?

ANSWER: We Goofed!

Although they are not doing work that consultants would do, there are, as you state, several persons at ORNL who have been performing services on a part-time basis but who have been classified as consultants. Future agreements covering this type service will be designated as service agreements, not consulting ones.

QUESTION: I am weekly salaried. When I served on jury duty, the amount of jury pay I received was withheld from my paycheck. My friend who is monthly salaried served on the same jury. He was permitted to keep his jury pay in full.

Is this unjust discrimination and a violation of my civil rights?

ANSWER: We don't think so. If you had to work outside regular hours during the time you served on the jury or after you returned to keep your job duties covered, you received extra pay for doing so. Your friend, under the same circumstances, received no extra pay.

The primary differences between a nonexempt salaried employee and an exempt salaried employee are those established under the Wage and Hour Law. The nonexempt employee is paid overtime for hours worked in excess of 8 hours per day or in excess of 40 hours per week. An exempt employee is not paid overtime for additional hours worked. Although there may be periods, such as jury duty, when an exempt employee is paid for hours not on the job, there are considerably more periods where the exempt employee is working additional hours without additional remuneration.

QUESTION: I am a person with a B.S. degree and have training in secretarial science. Why is it that I do not have a secretary's title but am called a record clerk? What does one have to do to become a secretary?

ANSWER: The title of secretary designates a person who is normally performing secretarial duties, such as taking dictation; transcribing and typing correspondence, memos, reports; assembling and consolidating data for reports. A secretary also maintains files and records; a calendar of appointments and acts as receptionist for visitors; and receives telephone calls and messages. It is recommended that you request your management to make known your desires for a secretarial position, or if you feel that your work is presently that of a secretary, request that your job be reviewed. If you are actually doing secretarial work, you will be reclassified as a secretary.

QUESTION: Do Carbide's promotional and hiring policies discriminate against those who are overweight?

ANSWER: Union Carbide, Nuclear Division does not discriminate in its promotional or hiring policies against those who are overweight. However, where overweight limits a person's ability to perform a job adequately or where the overweight is contributing to a health problem that will appreciably affect job performance, then this must be considered in filling the job opening. Any employee who has a weight problem is urged to consult with a Company physician who may be able to advise and assist in planning a course of action to bring the problem under control.

QUESTION: Although the Nuclear Division has always stressed safety both on and off the job, a condition has existed for years which no one seems to be able to correct. This is the presence of vendor trucks — usually hauling gravel or coal — in the height of the morning commuter traffic. At the very least, these trucks block lanes of traffic or slow them down to five miles an hour. At worst, they could cause a multiple car accident. Doesn't someone in the Nuclear Division

(Continued on page 8)

$25,000 grant pledged by UCC to area Mental Health Center

Union Carbide Corporation has pledged $25,000 to support the expansion program at the Regional Mental Health Center in Oak Ridge. Announcement of the pledge was made by Roger F. Hibbs, President of Union Carbide's Nuclear Division.

Commenting on the contribution, Hibbs explained: "We are extremely pleased to be able to support projects which not only provide necessary services, but make them available to the residents of a region with a population of more than 156,000.

'The greatest success'

"Since the Mental Health Center opened its doors in 1969, it has made a very significant contribution to this region. I am confident that when the expansion program is complete, residents of the region will find even more comprehensive services available at the Center."

Hibbs told Dr. John F. Byrne, Director of the Regional Mental Health Center: "Speaking on behalf of Union Carbide Corporation, and as an individual, I want to wish you the greatest success in your campaign to improve the facilities available at the Center."

Carbide's pledge will be paid over a three-year period. The initial payment of $8,500 has already been received by the Center. A second payment of $8,500 will be made in 1975, and the final payment of $8,000 in 1976.

Serves area

The Regional Mental Health Center is a comprehensive community mental health facility serving the needs of Anderson, Roane, Campbell, Morgan and Scott Counties.

The expansion plan will approximately double the available space of the Center. In addition to renovating the present facility, the plan calls for construction of a new two-story facility which will add 20 beds, laboratories, treatment and examination rooms and other needed facilities. (Photographs are on page 3.)

SME MEETING TONIGHT

The Knoxville-Oak Ridge Chapter 107 of the Society of Manufacturing Engineers will hold its regular monthly meeting Thursday, June 6, at the Sheraton Inn, Knoxville. A social hour will begin at 6:30, dinner at 7, with the meeting starting at 8 p.m. Guest speaker is Houston Luttrell, Professor and Head of Agricultural Engineering at The University of Tennessee. The title of his talk will be "Agriculture as a Manufacturing Process." Prospective members are invited.

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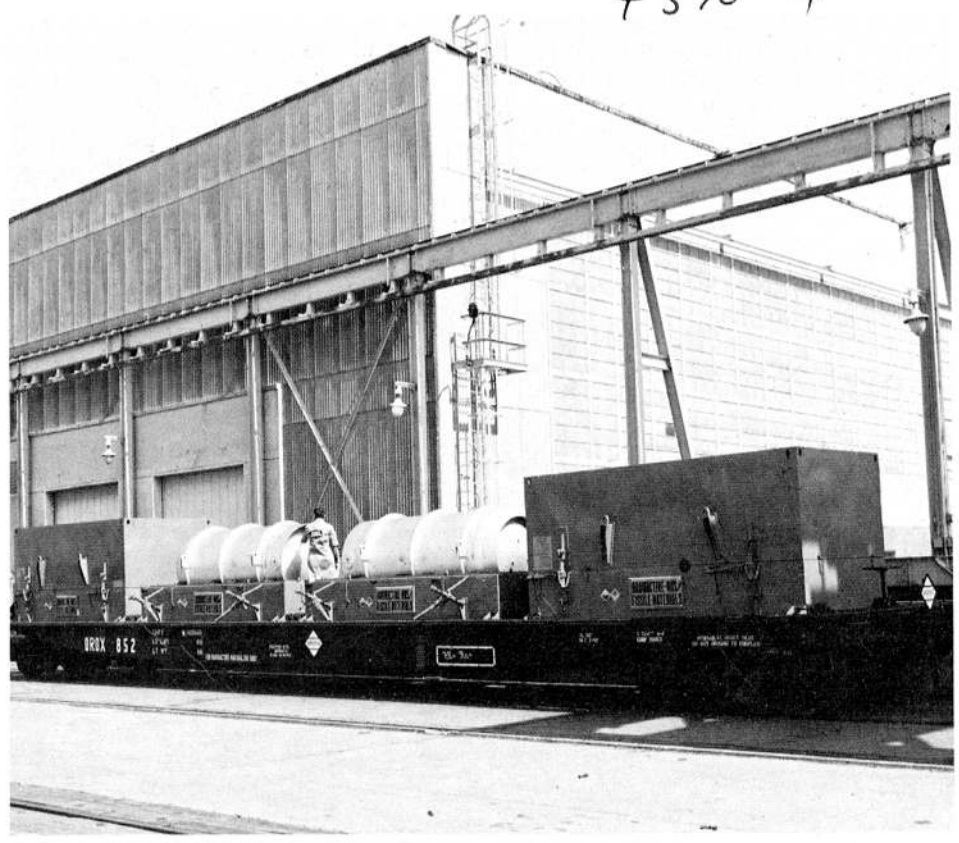


NEW TRANSPORTATION SYSTEM — Final inspection is performed prior to a landmark shipment of product from the Paducah Gaseous Diffusion Plant. This is the initial shipment under a newly developed transportation system designed to provide maximum health and safety protection to the public in the event of an accident involving this type of radioactive material. (Story on page 3.)

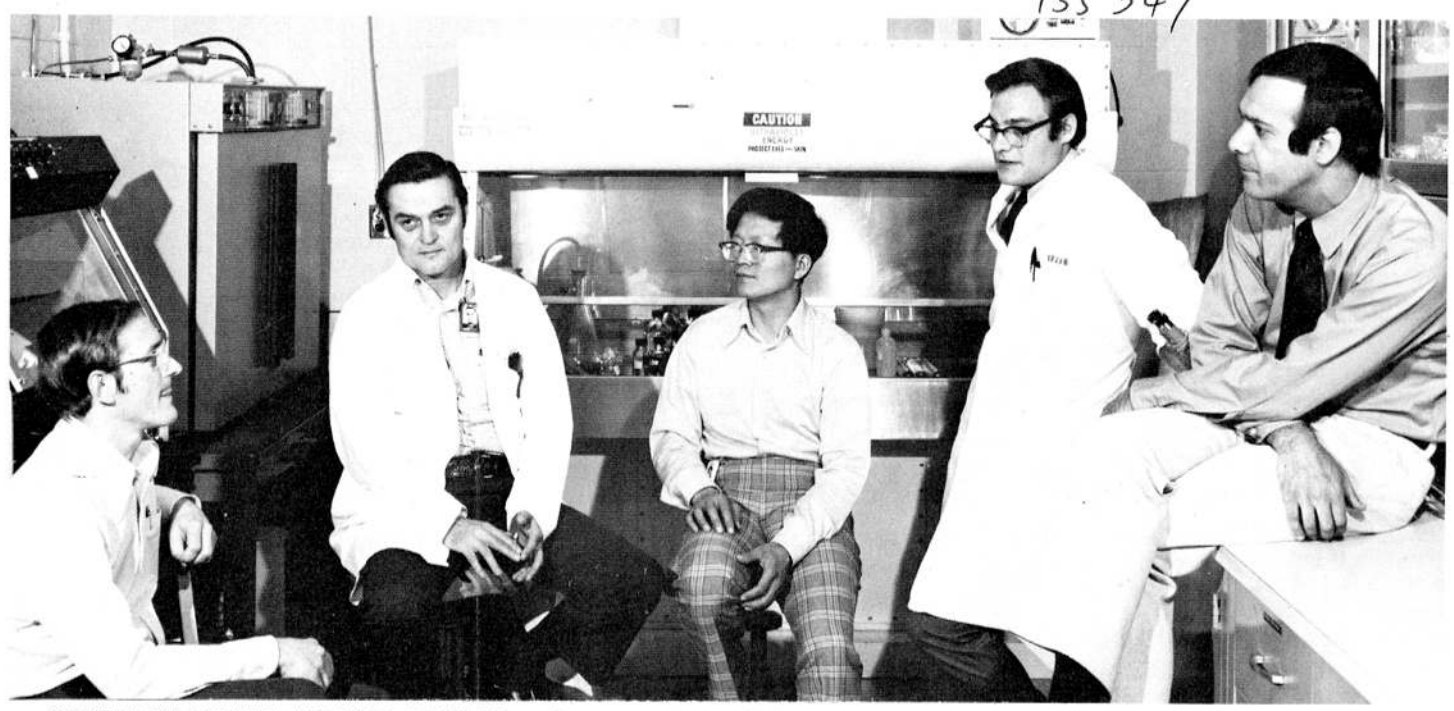
Researchers discuss role of virus in causing cancer

155347

Robert L. Wesley

The possible role of certain viruses in the initiation of cancer is the subject of a wide range of studies sponsored principally by the National Cancer Institute. One of the facilities supported by NCI is the Carcinogenesis Program located in Oak Ridge National Laboratory's Biology Division. The cancer-virus research is one of several avenues of cancer research conducted in the Carcinogenesis Program headed by Frank T. Kenney. Cancer-virus research is being conducted in four groups which include: Regulation of Gene Expression, headed by Kenney; RNA Tumor Virus-Cell Biology, led by Ray W. Tennant; Enzymology of Carcinogenesis, led by Wen-Kuang Yang; and Immunology of Carcinogenesis, led by Michael G. Hanna Jr.

These men recently were interviewed to learn the direction of current ORNL research into viruses as a cause of cancer. Also participating in the interview was James N. Ihle of the Regulation of Gene Expression group. An edited and summarized transcript of this interview follows.



RESEARCH STAFF DISCUSS STUDIES — Some members of the Oak Ridge National Laboratory Biology Carcinogenesis Program research staff discuss their various avenues of cancer-virus studies. From left are Ray W. Tennant, Frank T. Kenney, Wen-Kuang Yang, James N. Ihle and Michael G. Hanna Jr.

QUESTION: How long has ORNL Biology been involved in cancer virus studies?

KENNEY: The Laboratory was studying the role of viruses in cancer as far back as 1960 when we were concerned with radiation-induced leukemia in mice, which probably involves a virus which is activated by radiation. Our present organization for tumor virus research got under way in 1970. At present we have some 25 persons involved in the studies, including doctoral level staff people, postdoctoral research associates, technicians and others.

QUESTION: Do you have any idea of what percentage of human cancers might be caused by viruses?

HANNA: At the present time it is very difficult to say. Some estimate that perhaps 10 percent of the cancer in man can be due to viruses. Other investigators feel that all cancers may be related to viruses, but the evidence for this is weak.

TENNANT: Viruses can induce cancer in a variety of animals from mice to monkeys but it is not known what percent of spontaneous or natural cancer is due to viruses. Until the situation is understood in animals and until human tumor viruses are defined, a clear answer is not possible.

KENNEY: It is conceivable that all cancers are somehow related to viruses, but this would seem unlikely. The evidence from laboratories throughout the world now seems to narrow the virus role to two type of virus — herpes and C-type. The herpes viruses contain DNA as genetic agent and are thought to be possible causes of several malignancies, for example, those of the genital tract. The second, or C-type virus particles contain RNA and are thought to be possible causes of leukemias, some lymphomas, and sarcomas. The evidence thus far is drawn largely from experiments in mice and other animals and inferred in man. Our cancer virus research at ORNL is almost exclusively aimed at the RNA viruses in mice, and we are working at a very basic research level in trying to determine what the factors are in an animal that determines whether or not the viruses succeed in causing cancer.

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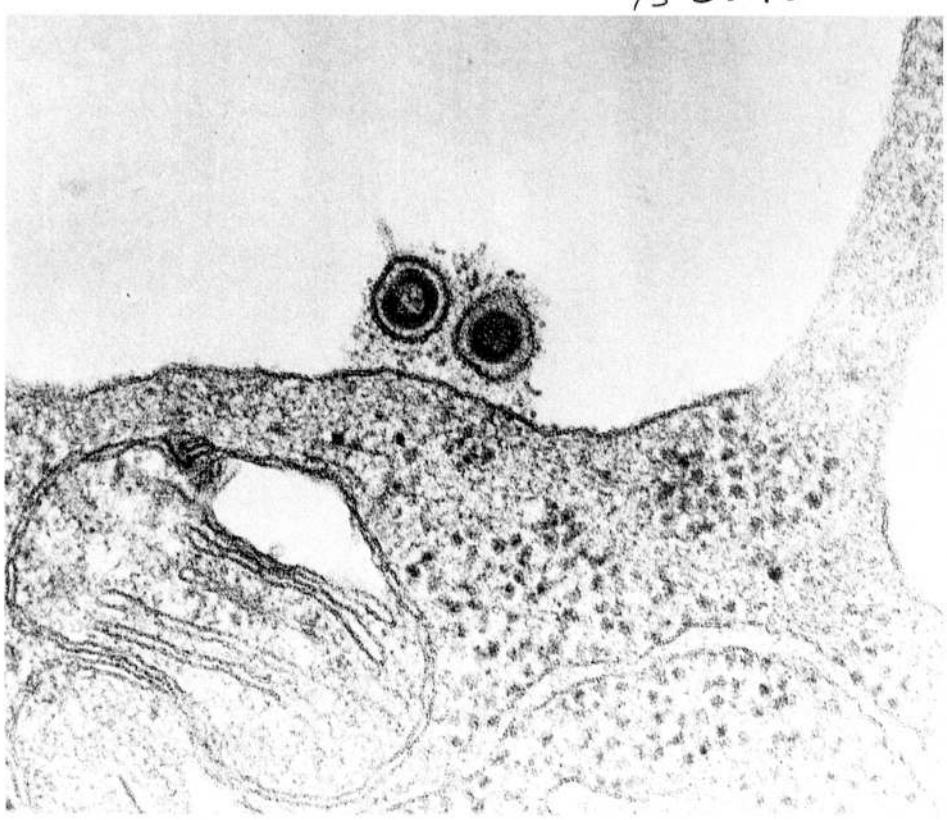


LEUKEMIA CELL — Two RNA, C-type viruses are seen budding off a mouse leukemia cell in this electron microscope photo, at approximately 100,000 magnifications.

YANG: The uncertainty in whether or not viruses cause cancer in man, held by many scientists, is based on a universally accepted concept concerning etiologic agents of infectious diseases. If one wants to establish that a certain type of agent, such as a virus, is responsible for a disease, one has to detect and isolate that agent in an infected host, remove it to cure the disease, then learn to cultivate it in the laboratory and be able to inoculate it into test animals to induce the same disease, and finally re-isolate the same agent from the diseased animals. If all these criteria are fulfilled, then one can say with confidence that this is the agent responsible for the disease. Cancer virologists are unable to satisfy themselves using these criteria in human cancer, for obvious reasons. So far there has not been any success in isolating a C-type RNA virus from human cancers, despite tremendous efforts by workers in this field of cancer research. However, evidence has been accumulated to indicate that formation of cancer in man may involve expression of parts of viral genetic messages only, but not of the whole virus particle.

KENNEY: This is an important point. It may not be necessary for a cell to be producing an intact virus for cancer to occur. The expression of certain virus functions, and not the production of virus, may be what is significant in cancer. You don't have to find the whole virus, but just pieces of it, or evidence that it has been at work — what we might call "footprints." The work of Jim Farrelly in my group is aimed at developing biochemical methods for detecting these.

YANG: Tumor viruses cause cancer in animals by interaction with host cells at the genetic level, whereas ordinary infectious viruses do not. The genetic materials of tumor viruses may stay within the genetic material of host cells without coming out as virus particles. We have found that when they do come out of the cell as particles, they carry some specific host cell RNA molecules with them. Larry Waters of our group has recently completed some experiments which suggest that on their entrance into a cell, tumor viruses insert their genetic materials at specific loci within the genetic materials of the cell. To us, it is very important at the moment to find out the significance of these loci in the induction of tumors.

HANNA: We know that the body has several built-in defenses to an infecting agent. The first is at the cell level. Beyond that, the immune system with its antibodies can be activated. We know that in mice there are infective particles called viruses which cause a disease pattern very much like the natural disease pattern in man generally classified as leukemia. As the mouse grows to old age, it develops leukemia. It is a reasonable assumption that the basis of the leukemia is the presence of the virus particles in its body. Thus in the mouse we have a model for leukemia and an infective agent that can be associated with this disease.

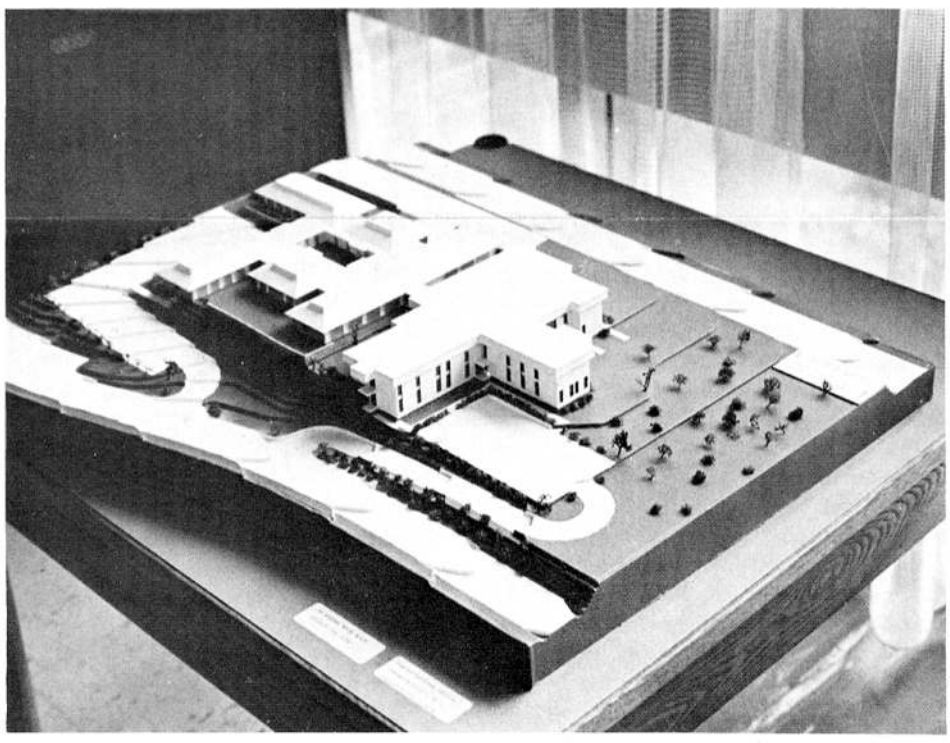
IHLE: That's the important point. It has been demonstrated numerous times that these RNA viruses with which we work are directly associated with leukemia in mice.

HANNA: There are also certain things that occur in mouse leukemia that point to an immunological system at work. For instance, if we take an uninfected mouse and inject it with this particular virus while the mouse is very young, the young mouse gets leukemia. But if we wait until the mouse matures before injecting the virus, we don't see any greater incidence of leukemia than we would normally expect. As he becomes very old, however, his immunological defense starts to go down and the mouse contracts the disease. On the other hand, if a mouse receives the virus from its mother, while the mouse is still an embryo in its mother's body, it seems to have some sort

(Continued on page 8)

155593

CARBIDE PLEDGES $25,000 TO MENTAL HEALTH CENTER — Union Carbide Corporation has pledged $25,000 to the expansion program of the Regional Mental Health Center. In the photograph above, Roger F. Hibbs, President of Carbide's Nuclear Division (center), presents a check to Ralph E. Aurin Jr., chairman of the fund-raising drive. Looking on is Dr. John F. Byrne, Director of the Regional Mental Health Center. In the lower photo, an architect's model shows what the enlarged and improved facilities will look like when the present plans are fulfilled. The Center serves the mental health needs of Anderson, Roane, Campbell, Morgan, and Scott Counties. (A story on Union Carbide's contribution to the Center is on page 1.)



Personal Investment Account

Starting with this edition, the following information about the unit values of investments in the Personal Investment Account of the Savings Plan will appear once each month as a regular feature of the **Nuclear Division News.**

SAVINGS PLAN

Recent unit values are:

	Fixed Income Fund	UCC Stock	Equity Investment Fund
January 74	$10.3095	$34.7196	$8.8746
February 74	10.3742	34.4209	8.8328
March 74	10.4402	37.7558	8.6079
April 74	10.5058	39.1736	8.1387

Note: Fixed Income Fund unit values reflect interest additions to achieve the guaranteed effective annual interest rate of 7-¾% for 1974. Union Carbide stock values are the average cost of stock purchases during the month plus brokerage charges. Equity Investment Fund unit values represent the month-end market value of securities held by the Fund. Dividing the total value by the number of units in the fund establishes the month's unit value - and the price at which new units are added that month.

Morgan named associate director of technology in Thermonuclear

4154-74

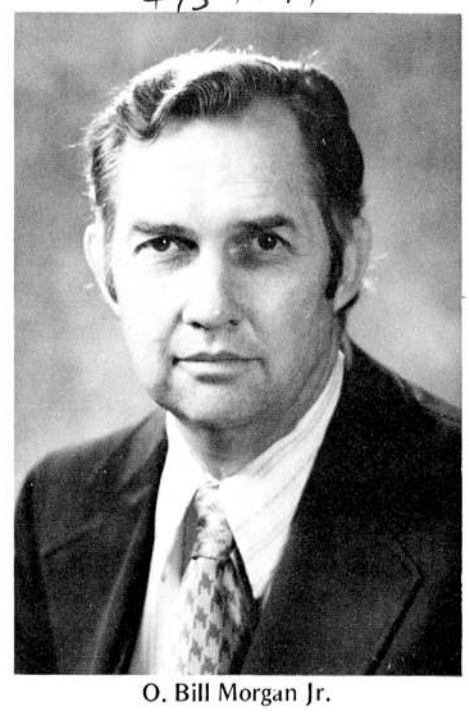
The appointment of O. Bill Morgan Jr. as associate director for technology of the Thermonuclear Division at Oak Ridge National Laboratory has been announced by John F. Clarke, division director.

Morgan will also serve as program director for the Division's energetic particle injection effort. Energetic particle injection is an experimental technique for creating the very high temperatures required for experiments in controlled thermonuclear research.

Morgan joined the Thermonuclear Division in 1958 after receiving his B. S. and M. S. degrees in engineering physics from North Carolina State University. He served as an associate group leader from 1962 until 1966.

From 1966 to 1968, as the recipient of an ORNL scholarship, Morgan completed courses for his doctorate in nuclear engineering at the University of Wisconsin. Since returning to ORNL, he has served as leader of the Thermonuclear Division's energetic particle injection group.

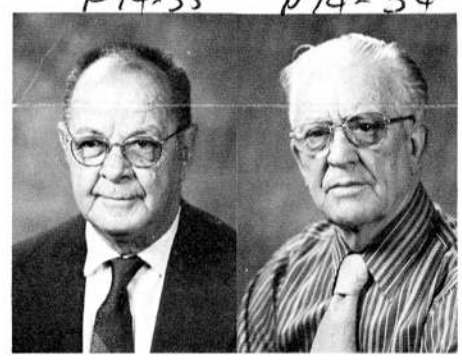
Morgan, his wife Nancy, and two sons live at 106 Miramar Circle, Oak Ridge.



O. Bill Morgan Jr.

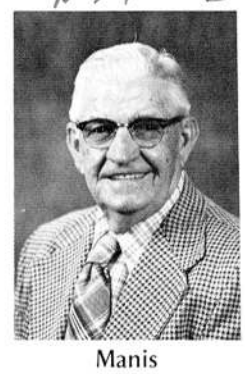
Division Retirees

N74-35 N74-34



Burnett Powell

N74-36



Manis

Four long-time employees retired from the Y-12 Plant June 1.

James R. Cooter, H-1 foundry, has been off from work ill for some time. He retires to his 118 Latimer Road, Oak Ridge, home.

Howard M. Burnett, Alpha 5 processing, joined the Y-12 organization in 1943. He lives at 105 Ogontz Lane, Oak Ridge.

Joseph L. Powell, area five maintenance, came here in 1950. He lives at 5307 Shannondale Road, Knoxville.

Floyd W. Manis, buildings, grounds and maintenance shops, also came to Y-12 in 1950. He lives at 329 Morelia Avenue, Knoxville.

Harry C. Huneycutt retired as an animal facility worker in the ORNL Biology Division. He had over fifteen years of company service credit. Huneycutt resides at Route 17, Dolph Drive, Knoxville.

New transportation system developed at Paducah Plant

Photos show final inspection being completed prior to shipment of fissile UF_6 product (U_{235} 1.0 percent) from the Paducah Gaseous Diffusion Plant. This is the initial shipment of a newly developed transportation system designed to provide maximum health and safety protection to the public in the event of a transportation accident involving this type of radioactive material. A fleet of these spècially designed units will be employed in continuous service between the three AEC gaseous diffusion plants. The system will also result in significant transportation economies over the current method.

The system was developed by Paducah Engineering, Operations and Traffic personnel in conjunction with industry representatives who designed and fabricated the special equipment. Valuable input was also provided by AEC, ORGDP, and GAT personnel. System components ("Paducah Tiger" protective package and specially modified rail cars) have successfully passed extensive testing procedures simulating severe accident conditions and thereby met all AEC, Department of Transportation, and Association of American Railroad regulations for the safe transport of radioactive materials.

The gaseous diffusion plants have established an outstanding safety record over a 20 year period in the transportation of UF_6. This new system represents the latest effort in the continuing program to achieve safe and economical transport of radioactive materials. (Photograph on page 1.)

Thank You Dr. Pap!

Dr. George Papanicolaou was a Greek-American medical scientist who discovered a fast, painless test that can find cervical cancer early when it is most curable - the famous Pap test. The American Cancer Society reminds women to have a Pap test regularly.

3921 3

Lavon Pease

Paducah's Lavon Pease secretary of the year

Lavon Pease, Paducah's Fabrication Maintenance Division, was recently named Secretary of the Year. The honor was bestowed at the annual executive night banquet of the Paducah-Kentucky Lake chapter of the National Secretaries Association.

Velva Blayney, Plant Engineering Division and 1973's Secretary of the Year, awarded Mrs. Pease the honor before a group of 130 area executives of government and industry in the Paducah area. She was chosen for the honor on the basis of her participation in NSA activities, job experience, education, participation in the certified professional secretaries activities and participation in civic affairs.

Mrs. Pease joined Union Carbide in 1958 after working with the Woodall-Melton Insurance Agency. She is active in civic affairs and is the pianist of the Lone Oak Baptist Church.

She and her husband, Jessie, live at 210 Milton Drive, Paducah.

Misek and Watson promoted in ORNL's F&M Division

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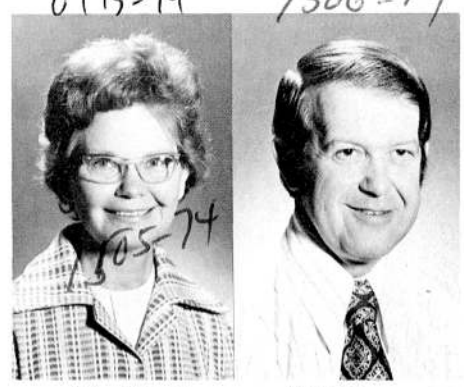


Mrs. Misek Watson

Two employees were promoted recently in the Finance and Materials Division at Oak Ridge National Laboratory. Ada F. Misek and Charlie A. Watson were promoted to accounting analysts.

Mrs. Misek came to work at ORNL in 1954 as a secretary in the Plant and Equipment Division. In 1972, while working full-time at ORNL, she completed requirements and was awarded a B.S. degree in business administration from The University of Tennessee. She was a senior accounting clerk prior to her promotion.

Mrs. Misek serves as an instructor in ORNL's In-House Educational Training Program and teaches adult education courses at Oak Ridge High School. She is an alternate member of the ORNL Credit Union Board.

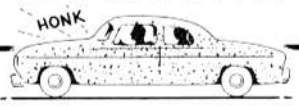
Mrs. Misek and her husband, L.J. (who also works at ORNL), live in Clinton.

Charlie Watson is a native of Knoxville. He graduated from Rule High School and attended The University of Tennessee. He worked for Rich's Inc., in Knoxville before joining the ORNL staff in 1958.

Watson, who has worked in the Finance and Materials Division during his entire tenure at ORNL, was an accounting assistant prior to his recent promotion.

Watson and his wife, Carolyn, live in the Karns Community. They have four sons.

WANTED



ORGDP

RIDE WANTED from Maryville to Portal 6, "D" Shift. G.E. Crowe, plant phone 3-3731, home Maryville 984-0064.

ORNL

CAR POOL members from Waddell, West Outer or Pennsylvania Avenue areas, Oak Ridge, to East or North Portal, 8:15 a.m. shift. Tom Burnett, plant phone 3-6939, home phone Oak Ridge 483-1975; or Dick Reed, 3-1801, or 483-3458.

TWO CAR POOL MEMBERS from Norwood section of Knoxville to either portal, 8 a.m. shift. R.F. Long, plant extension 3-6971 or Knoxville 688-4847.

RIDE from Peach Road, Pine Valley area, Oak Ridge, to East Portal, 8 a.m. shift. Susan Hodnett, plant phone 3-6316, home phone Oak Ridge 482-2976.

JOIN CAR POOL from East end of Oak Ridge to either portal, either shift. Art Morris, plant phone 3-1611, home phone Oak Ridge 482-3051.

THE LAST WORD

Middle age is when you are grounded for several days after flying high the night before.

Calendar of EVENTS

TECHNICAL

June 11

Solar Energy Series: "Central Station Electric Power from Solar Energy," Professor E.R.G. Eckert, Department of Mechanical Engineering, University of Minnesota. Central Auditorium, Building 4500N, 11 a.m.

June 12

Biology Division Seminar: "Gas Chromatography and Its Application to Biological Systems," John Mrocheck, ORNL. Tower I Conference Room, Building 9207, 3 p.m.

Big Name Winners

Van Johnson, Arthur Godfrey, John Wayne have all had a victory over cancer and they offer living proof of what the American Cancer Society has been saying - cancer is often curable if caught early and treated. Learn cancer's Warning Signals and have a yearly checkup including cancer tests.

FORTRAN course set at Paducah College

FORTRAN, the basic computer language for use in science and business, will be taught for the first time in the summer semester at the Paducah Community College. Formerly available only in the fall and spring sessions, FORTRAN will be taught on Tuesday and Thursday from 6:30 to 10 p.m. in Room 6 of the Matheson Building, beginning June 17.

The course, DP185 — Introduction to Programming — FORTRAN, will be taught by Jane Chapman, wife of Jack Chapman, Paducah's operations engineering.

ATTENDEES OF MEETING VISIT ORNL — A meeting on Gas-Cooled Reactors was held in Gatlinburg recently. As part of the program the attendees were given a tour of some of the facilities at ORNL. Paul R. Kasten (left), director of Gas-Cooled Reactor Programs at ORNL, was general chairman. The meeting was sponsored by the Tennessee Section and the Power Division of the American Nuclear Society. About 400 persons attended the meeting. Papers representing five countries and 27 research or commercial establishments summarized the status of gas-cooled reactor technology.

THE LAST WORD

Traffic problems are caused by urban, suburban and bourbon drivers.

Some people get married due to a lack of judgment, divorced due to a lack of patience and remarried due to a lack of memory.

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NUCLEAR DIVISION

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Inez Stiner top sorority member

Inez Stiner

Inez Stiner, Paducah Plant laboratory analyst, was recently chosen as the Outstanding Member of Alpha Epsilon, ESA International. She and the outstanding members from the 19 other ESA chapters in Kentucky were honored at the state convention in April hosted by Alpha Epsilon Chapter at Lake Barkley State Park.

The primary philanthropic project for Alpha Epsilon this year has been the Lourdes Hospital Auxiliary. Miss Stiner has volunteered many hours to this worth-while cause. An annual project for ESA is the bike ride for St. Jude's Children's Hospital in Memphis.

Miss Stiner began working for Union Carbide at the Paducah plant in 1953. She transferred to ORNL in 1964 where she worked for four years. She returned to the Paducah installation in 1971.

Division Deaths

FORMER Y-12 MECHANIC

Charles W. Toney, former garage mechanic in Y-12, died May 16 in the Nashville Memorial Hospital. He came to Y-12 in 1943 and worked there until his medical retirement in November, 1962. Mr. Toney is survived by his wife, Jessie; three daughters; seven grandchildren and one great-grandchild. Funeral services were held in the chapel of Martin's Funeral Home with the Rev. Clyde Carraway officiating. Burial was in Oak Ridge Memorial Park.

RETIRED PURCHASING AGENT

Hagen Bond, former purchasing agent, died May 18 at his home in Clinton. Mr. Bond came with Union Carbide in August, 1951, and worked in the Purchasing Division until his retirement in February, 1969. After his retirement, he served as a consultant with the division. Mr. Bond is survived by his wife, Alberta; two daughters and four grandchildren. Funeral services were held in Memorial United Methodist Church, Clinton, with the Reverends Frank Settle and J. Fort Fowler officiating. Interment was in the Holston View Cemetery, Gate City, Va.

COMPANY Service 20 25 30

ORGDP

30 YEARS

Hugh R. Hodsden, shop services department; Laurence P. Pasquier, Operations Analysis Division; Buffalo B. Albright, development maintenance; William A. Davis, U-235 separation department; Loyal W. Anderson, chemical operations administration; George C. See, fabrication shop department; Lawrence S. Dickey, experimental barrier development; Willie M. Musick, isotopes analysis department; and Willard C. Weaver, machine shop department.

25 YEARS

Ray Oldaker and Claude J. King.

20 YEARS

Lloyd L. Quarles, Arthur E. Hall, Glennis E. Harris, William T. Collins and Robert C. Hutchins.

PADUCAH

20 YEARS

Nolen L. Collins and Robert Y. Burkett.

GENERAL STAFF

20 YEARS

Homer R. Gregg Jr.

Y-12 PLANT

30 YEARS

Roscoe E. Barringer, Development Division; Thomas E. Shaw, research services; Virginia P. George, Engineering Division; Valjean C. Jackson, product certification administration; John W. Strohecker, Engineering Division; Anna P. Smith, production analysis; James V. Ledbetter, guard department; Wilma C. Trebilcox, chemical services; Jim Arrington, special services; and Betty Whitehorn, Development Division.

25 YEARS

Guy H. Smith.

20 YEARS

Bobbie C. Giles, Arthur K. Masters, Luna B. Hatfield, A. G. Dunnam, Richard G. Dunn, Everett Maden, Donald R. Byrd, James S. Elder, Earl T. Stair, Haggard D. Keylon, Bobby L. Bagwell, Leroy J. Eggert, George R. Goins, Oscar H. Harmon, Charles S. Harmon, John T. Farmer, Ernest L. Henson Jr. and Carl F. Conner.

'Something we do will touch your life' new slogan

"Today something we do will touch your life." That's the new word from Union Carbide. In a new advertising campaign, the theme will be the phrase responsive to the many fields of human interest and relating Union Carbide as a technologically strong, diversified, multinational organization.

The campaign begins this month with four-color ads in **Time, U.S. News and World Report, Business Week, Fortune, Psychology Today** and **Scientific American.**

Young and Rubicam International is the agency responsible for the new ad campaign.

Burchsted, ORNL, receives IES's 1974 Seligman award

Clifford A. Burchsted

Clifford A. Burchsted, Engineering Division at ORNL, is recipient of the 1974 Seligman Award of the Institute of Environmental Sciences. The award is presented annually to a member of IES who has performed outstanding service in the field of environmental sciences.

Burchsted was cited for playing a leading role in "every technical standard developed by the American Association for Contamination Control," and for participation in other activities relating to contamination-control and air cleaning. (The AACC merged with IES in 1973.)

Burchsted is chairman of the American Society for Testing and Materials' Committee D28 on activated carbon and is currently secretary of the Nuclear Energy Committee of IES. He has served as secretary of four American National Standards Institute and ASTM committees dealing with component cleaning and nuclear air-pollution control. Burchsted is author of the Atomic Energy Commission's **Air Filter Handbook** and of numerous papers related to that subject.

The Seligman Award was instituted in memory of Monroe Seligman, one of the founders and first president of the Environmental Equipment Institute, whose sciences section later became the Institute of Environmental Sciences. The award was established in 1972. Burchsted is the third recipient.

A native of Braintree, Mass., Burchsted received B.S. and M.S. degrees from Northeastern University and The University of Tennessee, respectively. He is a registered professional engineer in Tennessee. Burchsted joined the Nuclear Division staff in 1952.

Burchsted is a guest lecturer at the Harvard University Air Cleaning Workshops, and holds membership in several professional organizations. He is an honorary fellow of the Royal Society for Health, a British society prominent in the environmental sciences.

Burchsted is married to the former Elizabeth Simmons. They reside at 307 River Bend Road, Clinton.

Corporation earns NSC highest award

Union Carbide Corporation has been cited for outstanding safety performance in 1973 by the National Safety Council. The award was presented in New York in a special ceremony at Union Carbide's headquarters. Called the Award of Honor, it is the Council's highest award for an excellent safety record.

This record is distinguished by a rate for disabling injuries of only 1.47 per million employee-hours worked. The serious injury rate, for less-serious, nondisabling injuries, was a low 8.90 per million employee-hours worked. The award was based on the safety performance of all 73,754 Union Carbide employees in the United States, Canada and Puerto Rico.

The National Safety Council estimates that less than five out of every 1,000 work units in the United States can qualify for this award. The award was presented to Herbert Jochimsen, most senior employee present, and William S. Sneath, President of Union Carbide, by Charles F. Masterson, Executive Director, Office of the Trustees, of the National Safety Council.

Honored guests at the presentation of the award at Union Carbide's New York headquarters were 24 employees representing each division of the company.

RETIRED ORGDP MACHINIST

L. E. Abrahm, a former ORGDP experimental machinist in the Fabrication Division, died May 16 in the Veterans Hospital, Johnson City. Mr. Abrahm, who had worked with Union Carbide since 1954, retired in June, 1969. He is survived by his wife, Anna Ruth; a son, Kimball; a brother and sister. Funeral services were held in the chapel of Weatherford Mortuary with the Rev. Don Long, pastor of Calvary Baptist Church, officiating. Burial was in the Tennessee Memorial Gardens.

King daughter tapped for UT mortar board

Nancy Campbell King, daughter of Campbell R. King, Y-12's employment department, has been tapped for membership in the Mortar Board, the highest national honor society for women. Membership is based on leadership, scholarship and service as individuals and responsible citizens.

Miss King

Miss King, a liberal arts major at The University of Tennessee, serves on the undergraduate alumni council; is a tour coordinator for Vol Corps, has worked with language-disabled children; tutored elementary school children in Lonsdale; is a member of Alpha Lambda Delta honor society, and was on the chancellor's honors banquet committee.

The Kings live at 101 Nixon Road, Oak Ridge.

RECREATIONOTES

GOLF LEAGUES

Late standings give the Morton-Priode duo a six point lead in the D Shift Golf League, followed by the Kent-Everhart pair.

The Smith-Collins twosome took a sweep in the first week of play in the South Hills League, downing Smith-Collins. Lovett-Lincoln also whitewashed the Sise-Hammond pair.

The Dead Horse Lake League gives six point wins to Luckett-Hickey, Haun-Holt, the two Cases and George-Emery, as well as the Raper-O'Neal two.

The Southwest Point Golf League sees Bob Nier and Bob Schilling out front, ahead of the Strunk-Duff pair.

Y-12 GOLF TOURNAMENT

Benny Crass fired a three under par score of 69 to beat the field of Y-12 golfers at Cedar Hills last month. Charlie Baxter carded second low with a 74.

In handicap scoring it was Tom Smith with 74, and D.G. Lincoln with 79. R.J. Graham counted 12 pars; R.H. Angel, Bill Sise, Virgil Lovett and D.E. Littleton all parred 10 holes.

Roy Morrow came in first in the second flight, scoring an 87. W.C. Collins and E.W. Smith were second with 88 each.

Ron McElhaney tallied an 89 handicap score, along with W. Wolfe and Earl Smith.

Fred Marshall parred eight holes; C.C. Roberts six.

L.E. Dukes' 86 was low in the third flight, and C.C. Carter's 88 was second low.

J.R. Jones took an 87 in handicap scoring and Hoyt Huston counted 99 strokes.

B.F. Hendrickson parred four holes; Bill Jago and Bill McManus three.

ORGDP GOLF TOURNAMENT

Frank Copeland came into view at Wallace Hills with a 71 score to best the ORGDP field last month. Alvin Boatwright was second with 75.

Handicap lows went to Pete Leslie and H. H. Sullivan and R. W. Lynn. Leslie scored 79, the latter two 78.

R.W. Napier and John Nicol parred 10 holes.

John Ghosten scored 78 to win laurels in flight two. He was followed by M.C. Willard, who tallied 85.

Handicap lows went to John Sharp, 90; and W.L. Goodwin, 93.

Gerry Burroughs counted six pars.

Dan Turner took flight three with an 88 score, followed by W.E. Napier, with a 90.

D.J. Hinton's 89 was handicap low, and Glen Nelson took a 94 score.

Len Hart counted five pars.

ATTENTION FISHERMEN

Recreation officials request that overnight fishermen, wishing to troll the waters of Melton Hill Lake, should preregister before leaving their trailers or autos inside the parking areas of Clark Center Recreation Park. You can either do this through the park supervisor there, or by notifying Recreation, extension 3-5833.

ORNL GOLF TOURNAMENT

John Cornelius took the Dead Horse Lake tournament for ORNLers during May, with a one-over par 73 score. He was followed by Paul Pair with a 76.

Handicap honors in the first flight went to D. P. Madewell, with an 80; and R. C. Bryant, with a 79.

Les Caldwell scored 12 pars; Jim Anglin and G. C. Cain counted 11.

In the second flight it was George Townes, with 80 and S. Shell with 84.

Handicap lows went to J. Holt and L. Lane, with 82 and 84 each. Most pars went to J. Clinard, Bob DeBakker and C. Morgan, all with seven.

The third flight belonged to G. Jones, with an 87; followed by J. Oliver, with 92.

Handicap laurels were gleaned by Bill Vaughn and D. Spangler, with 91 and 94.

Jack Addison scored four pars.

SOFTBALL LEAGUE

Two softball leagues got underway recently with 20 teams vieing for laurels over at the Clark Center Recreation Park.

League standings follow:

NUCLEAR LEAGUE

Team	W	L
Computes	3	0
Bio Rejects	1	0
Rats	3	1
Hornets	3	1
Over-The-Hill Gang	3	1
Raiders III	2	1
The Losers	1	2
Al's Pals	1	2
Artie's Army	1	2
Avengers	0	2
Yellow Jackets	0	3
Bombers	0	3

ATOMIC LEAGUE

Snakes	4	0
Supersonics	2	2
Y-12 Sox's no. 1	1	1
Streakers	1	1
Gashouse Gang	1	2
Red Barons	1	2
Ecology	1	2
Y-12 Sox's no. 2	0	1

SWIMMING AREA TO OPEN

The beach at the Clark Center Recreation Park will be open for swimming June 10. Lifeguards will be on duty from 11:30 a.m. until 7:30 p.m. daily through Labor Day. Sportsmen are requested to schedule swimming during these hours **only** for safety purposes.

SEPARATION SYSTEMS DIVISION HOLD PICNIC

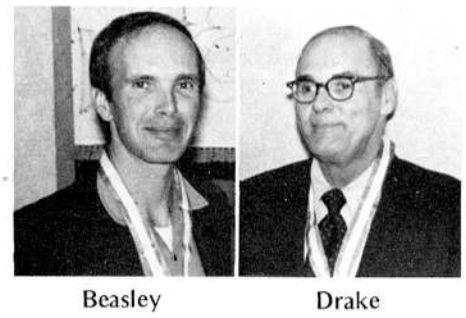
Approximately 400 people attended the ORGDP's Separation Systems Division annual spring picnic, last month, at the Clark Center Recreation Park. The menu consisted of their own specially cooked barbecue along with all the trimmings. Attendees participated in such activities as a softball tournament which was won by Bramblett's Bruisers, a hole-in-one contest, and bingo. Other entertainment included the dunking booth, a magic show put on by Frank Gethers and Mark Young and ORGDP's own fabulous Turkey Creek Band. Door prizes were won by Dennis Grooms and Lynn Marie McKeever. Chairman of this successful event was T.R. Williams. Plans are already underway for next year's annual picnic.

Two employees awarded silver beavers

Two Nuclear Division employees were recently awarded Silver Beavers by the Great Smoky Mountain Council of the Boy Scouts of America. They are Cloyd Beasley Jr., and J. Dudley Drake, both of Oak Ridge. The Silver Beaver is the highest recognition that a Boy Scout Council may award its volunteers.

Beasley was an eagle scout as a boy. He began his scouting service as a scoutmaster in Wisconsin. Since 1963, he has been scoutmaster of Troop 224, which is sponsored by the Grave Lutheran Church. He has been active in the Order of the Arrow and other council and district activities.

Drake started his service with scouts in the Memphis area. He is currently serving as scoutmaster of Troop 126, which is sponsored by First United Presbyterian Church.



Beasley Drake

Drake's district activities include membership on the camping and activities committee, chairman of the advancement committee, work with the Order of the Arrow, and membership in the Court of Citizenship which reviews candidates for eagle.

Beasley works in ORNL's Thermonuclear Division. Drake is in the Computer Sciences Division at ORGDP.

ORNL RETIREES DIE

Ben F. Day, formerly a senior laboratory technician in the Solid State Division at ORNL, died May 12. Mr. Day retired from ORNL in 1971 with over 16 years of company service.

Mr. Day is survived by two sisters and several nieces and nephews.

John M. Enochs died at his Oak Ridge home on May 10. Mr. Enochs was a fire and guard captain in the Laboratory Protection Division until his retirement in 1971. He had over 28 years of company service.

Mr. Enochs is survived by his wife, Mrs. Lillie Enochs, 134 W. Gettysburg Avenue, a daughter; a son; a sister; a brother and two grandchildren.

RETIRED ORGDP ELECTRICIAN

Richard W. Henson, who retired from the Oak Ridge Gaseous Diffusion Plant in 1960, died in the Oak Ridge Hospital May 6. A native of Unicoi County, he worked 15 years as an electrician at ORGDP. He is survived by his wife, two daughters, a son, a grandson, and a sister. Graveside services were held in Erwin, Tenn.

THE LAST WORD

As children we love our parents. As students, we tolerate our parents. As adults, we forgive our parents. And as parents ourselves, finally, we understand our parents.

The Medicine Chest

(Editor's Note: Dr. Lincoln alternates his regular column with "The Medicine Chest," where he answers questions from employees concerning their health in general. Questions are handled in strict confidence, as they are handled in our Question Box. Just address your question to "Medicine Chest," NUCLEAR DIVISION NEWS, Building 9704-2, Stop 20, or call the news editor in your plant, and give him your question on the telephone.)

By T. A. Lincoln, M.D.

QUESTION: "Can you comment on the fascinating Oster theory relating homogenized milk and atherosclerosis?"

ANSWER: Dr. Kent A. Oster, chief of cardiology at Park City Hospital in Bridgeport, Conn., and medical director of McKesson Laboratories, believes that atherosclerosis is due to the enzyme, xanthine oxidase, which is found in large amounts in milk. He calls atherosclerosis a plasmalogen disease. Plasmalogens are fat-like substances similar to lecithin which contain a fatty aldehyde, and are an important constituent of several tissues, especially the walls of arteries. When they are destroyed by the enzyme, a local deficiency or injury occurs which allows fat to be deposited, thus beginning the atherosclerotic process.

When milk is homogenized, fat globules are reduced to less than a third of their natural size and are thereby more easily absorbed. In the presently used pasteurization process, milk is heated to 170°F and then held for 15 seconds. Such a practice leaves 42 percent of the xanthine oxidase in the milk unchanged. Then with homogenization, the fat globules are broken up so they can be easily absorbed. During the past thirty years, which has seen the incidence of atherosclerotic cardiovascular disease rise at a rapid rate, homogenized milk has been almost universally adopted.

Oster has found that plasmalogen content in arteries of patients who have died because of a heart attack is greatly reduced and an increased amount of xanthine oxidase is present.

Countries who have the highest incidence of atherosclerotic heart disease either drink a great deal of milk, or the milk they do drink is homogenized. Several countries whose adults drink much milk make a practice of boiling it before drinking. Boiling destroys the xanthine oxidase enzyme. That may account for their lower incidence of heart disease. France is low on the list of milk drinkers and low on heart disease, yet their people eat large amounts of cheese. If fat consumption alone were the crucial factor, one would expect the French to have much more heart disease, yet they don't. The Masai in East Africa drink enormous amounts of milk, reportedly often over seven quarts a day, yet they have no coronary heart disease. Epidemiologists have been trying to explain away this low incidence in spite of a fantastically high consumption of animal fat, by some special genetic protection. Dr. Oster says the reason is because they drink only curdled milk, which destroys the enzyme.

Oster is a voice crying out in the scientific wilderness. In a recent scholarly review of enzyme chemistry as it relates to atherosclerosis, his work wasn't even mentioned. His ideas must be regarded as completely unproven, but certainly interesting. Anybody who reads extensively in the field of atherosclerosis surely realizes how fantastically complicated it is. No simple answers are going to be found. For 25 years we have been dominated by scientists who say consumption of animal fat and sugar are the most important factors. It seems doubtful if it could be so simple as homogenized milk. Adults consume too much sweet milk, we know. The high calorie consumption is not justified. We should have been weaned by the time we reach adolescence.

QUESTION: "Several articles concerning survival in arid areas suggest drinking the water in an automobile radiator in a dire emergency. What if the water contains ethylene glycol (antifreeze)?"

ANSWER: The single oral dose of ethylene glycol which is lethal for humans has been estimated at about 100 ml, or 3 1/3 ounces. Antifreeze depresses the central nervous system and victims lose consciousness and have difficulty breathing. Severe damage to the kidneys and liver occurs. Numerous poisonings have occurred as the result of suicide attempts, many of them successful. Humans are apparently much more susceptible to antifreeze poisoning, at least as a single dose, than are experimental animals. A fascinating treatment is the use of ethyl alcohol. It is the metabolic products of antifreeze which are so toxic and alcohol successfully competes for the enzymes in the liver necessary to break down the antifreeze. If enough of it can be prevented from breakdown, it may be excreted harmlessly by the kidneys. Here is one case where alcohol can be considered a lesser poison and actually a treatment. If caught out in the desert and facing certain death due to lack of water, and if one just happened to have some whiskey along, he might mix it with his radiator fluid and drink it extremely slowly. A safer way, which might be possible if he had the necessary tools, would be to tear apart the car enough to build a small still and distill some water from the radiator fluid.

Next Issue

The next issue will be dated June 20. The deadline is June 12.

Mathis, Wicker and Wyatt promoted at Paducah Plant

Three promotions were announced recently at the Paducah Gaseous Diffusion Plant by George T. Hull, superintendent of the Cascade Operations Division.

Howitt C. Mathis has been named a process foreman. A native of Greenville, Ky., Mathis came with Union Carbide in 1971, after working with the Carbondale, Ill., police force.

He attended Paducah Junior College and Southern Illinois University.

Mathis and his wife, Sylvia, live at 1031 Clay Street, Paducah. They have one daughter.

Joseph H. Wicker also has been named a process foreman. He was born in Corinth, Miss., and joined Union Carbide in 1952 after working with the Murray Manufacturing Company.

He attended Mississippi State University and Murray State University.

Wicker lives at 145 Fairview Drive with his wife, Rachel, and daughter, Laurie.

Also named a process foreman was Rupert E. Wyatt. A native of Graves County, he joined the Paducah organization in 1952.

Wyatt previously worked with the Livingston County Board of Education,

Mathis

Wicker

Wyatt

and holds a B.S. degree from Murray State University.

Wyatt, his wife, Martha, and daughter, Melissa, live at 4045 Cleary Drive, Paducah.

Plant and equipment at ORNL announces promotion of four

Four men have been promoted in the Plant and Equipment Division at ORNL. Charles Blue has been named a supervisory trainee and Kenneth Kirksey, George Long and Joe Rhodes have been promoted to foremen.

Charles Blue was born in Morristown and graduated from Austin High School in Knoxville. He worked for the Knoxville Utilities Board before coming to ORNL in 1962. Blue completed the Laboratory's Apprentice Training Program and was a sheet metal worker prior to his new assignment.

Blue and his wife, Emma, reside at 3334 Sunset Avenue, Knoxville. They have two children, Dorcas and Gregory.

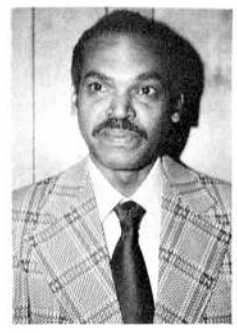
George Long, a native of Rockwood, graduated from Rockwood High School. He came to ORNL as an electrician in 1965 after working for TVA. Long completed a three-month assignment as supervisory trainee before being promoted to maintenance foreman.

Long's wife, Helen, works at the Y-12 Plant. They live at Route 4, Rockwood.

Kenneth Kirksey was born in Benwood, W. Va., but moved to Englewood, Tenn., at an early age. He graduated from Englewood High School and attended Hiawassee College. He served for two years in the U.S. Marines and worked for the Aluminum Company in Alcoa prior to coming to ORNL in 1958. Before his recent promotion, Kirksey was a planner-estimator.

Kirksey and Willie, his wife, reside at Madisonville. They have two sons, David and John.

Joe Rhodes, a native of Knoxville, graduated from Knoxville High School and attended The University of Tennessee. He worked for TVA before coming to ORNL as a painter in 1960. Rhodes



Blue

Kirksey

Long

Rhodes

will be a foreman in the building and utility services department.

Rhodes and his wife, Jo Ann, live at 2705 Sanderson Road, Knoxville. They have four children; Mike, Joe Ab, Kelly and Pat.

DISCOUNT OPRYLAND TICKETS

June 15 through June 22 has been tagged Tennessee Credit Union week at Opryland, down in Nashville.

Discount tickets, allowing one dollar off on admission, are available at the Y-12, ORNL and K-25 Credit Union offices. Just go by and tell them how many you will need for Credit Union Week.

Biologists on cancer-virus

(Continued from Page 2)

of defense against the virus. The virus will be carried in the mouse's body without becoming activated until the mouse reaches old age. Then, apparently as its immune system has gone down, the mouse contracts leukemia. This pattern has held up consistently and certainly seems to indicate the virus as a cause of leukemia in mice and the operation of an immune system that somehow can hold the virus in check.

TENNANT: The cellular level of defense is also critical to resistance to RNA tumor viruses. Much of our effort is directed toward understanding this level of defense. There are three types of leukemia viruses which can be activated by chemicals or irradiation from mouse cells. We and others have shown that the activated viruses, however, can be controlled at the cellular level by specific genetic mechanisms. In fact, in collaborative studies involving Wen Yang's group and Dr. Arthur Brown of The University of Tennessee, we have evidence of a cell gene product which is unique in its effect on these viruses. A type of virus has been described recently which is activated from mouse cells but which can infect human cells. It is now important to determine if these viruses can convert normal human cells to the cancer state and how they bypass the control which human cells have over other mouse leukemia viruses. Equally important is the mechanism by which irradiation and other agents activate these viruses and whether the tumor inducing effects can be controlled.

IHLE: As mentioned before, all mice seem to have the genetic capacity to make the leukemia viruses. Since these viruses apparently cause no harm to the mouse until synthesis of the viruses somehow becomes activated, we would like to know what factors control this spontaneous expression. Using models to induce virus expression, we are studying how this expression occurs, what types of agents influence this expression, and eventually, how expression of the virus can be controlled. Sometimes research can be significant in identifying areas which are not important in disease control. For a time, some researchers felt that a virus enzyme known as reverse transcriptase might be a way to control cancers of viral origin. But the work we have done says that this is not probable, insofar as we show that this enzyme is not required when the animal's endogenous virus is activated. All the signs point toward the conclusion that this activation of endogenous virus is what is important in cancer — not the spread of virus from one animal to another. And that, of course, is consistent with the fact that cancer is not a communicable disease.

HANNA: One of the most important findings we have made is that mice do have a natural immunological defense to the leukemia virus, which the animal has carried since birth. Previously, it was thought that the mouse was immunologically unresponsive to cancer-causing viruses. We also found that in strains of mice that have a high incidence of leukemia, the natural immunity is very weak; mice with a strong immunity to the viruses do not develop leukemia so readily. We consider this as strong evidence that natural immunity to the RNA viruses is very significant in leukemia in mice.

IHLE: One of the questions we would like to answer is whether or not the immune response can be altered. So far, viral vaccines have not been very effective. There could be many reasons why. One of the things that biochemists can consider is what proteins on the virus are responsible for natural immunity. During the past year or so we have identified these. In the future, we will attempt to make a vaccine with these purified proteins to determine if the immune capacity of the mice can be altered to improve their capacity to neutralize these viruses. In the past, vaccines of whole viruses have been tried for cancer and have not worked. Perhaps now, knowing what proteins are responsible for the normal reaction against the virus, we can use purified proteins.

KENNEY: To sum up, we know that RNA viruses are important in some cancers in mice and other animals, and we strongly suspect that they are important in some human cancers. Unlike other virus-related diseases, however, it seems that cancers relate to viruses which are normally present in cells, but in an inactive form. We have developed a program where we try to integrate the disciplines of virology, biochemistry, immunology and genetics to find answers to the questions: (1) what are the factors in the cell which determine if the virus becomes activated, and how can we manipulate them to prevent activation?, and (2) if the virus does become activated, what are the defense mechanisms available to prevent successful spread of the virus, and how can we manipulate these? Our overall goal, here as in other aspects of our work in carcinogenesis, is to contribute toward the prevention of cancer in man.

Y-12 PLANT

RIDERS WANTED from Burlington, McCallie Street, Western Avenue, Highway 62 to any portal, straight day. J.C. Harris, plant phone 3-5807, home Knoxville 524-5649.

RIDE from Scottish Inn vicinity, Gallaher Road, Kingston, to North Portal, straight day. W.A. Farmer, plant phone 3-7331, home phone Kingston 376-9916.

RIDE WANTED or WILL JOIN CAR POOL from East Knoxville, Rutledge Pike or Asheville Highway to Central or West Portal, straight days. D. B. Shuttles, plant phone 3-5246, home Knoxville, 522-0964.

CAR POOL members from Norwood, Cherokee Ridge area, Knoxville, to any portal, straight day. Eugene Keith, plant phone 3-7615, home phone Knoxville 947-8573.

QUESTION BOX

(Continued from Page 1)

have the authority to tell the vendors to stay out of the plant traffic until after 8:15, or better yet, after 8:30?

ANSWER: The Nuclear Division insists that safety be given first consideration in all operations under its direct control and encourages safety in all situations. However, we lack authority to prohibit trucks from using public access roads to the plants. We used an indirect control at one time by limiting the hours for accepting coal in the contracts. This limitation often resulted in the coal trucks traveling at their normal times and waiting at the gates until the specified time for acceptance, so our goal was not fully accomplished. With the present demand for coal, such a contractual restriction is unacceptable to the coal haulers and could hamper plant operations if we insisted on it.

Gravel trucks are hauling materials for independent contractors who have competitively bid on work for the Nuclear Division and are contractually obligated to complete the work by a specified date.

In view of existing conditions, we encourage you to be especially alert to these slower moving vehicles and to drive defensively.

PATENTS Granted

To Warren R. Grimes, James H. Shaffer and Forrest A. Doss, ORNL, for "Removal of Fluoride from Chloride or Bromide Melts."

To John A. Auxier, William H. Shinpaugh, John H. Thorngate and Phillip T. Perdue, ORNL, for "Determination of Radon in Air."

To Gordon R. Love and Carl C. Kock, ORNL, for "Superconductor."

J. C. Hall named again to SME post

Joseph C. Hall, superintendent of fabrication shops, Oak Ridge Gaseous Diffusion Plant has has been re-elected to a two-year term on the board of directors of the Society of Manufacturing Engineers.

A certified manufacturing engineer, Hall is a past chairman of the Knoxville-Oak Ridge Chapter 107. At the regional level, he has served all elective offices and was chairman of Region V in 1969-70. He is currently national secretary and previously served as chairman of the administrative council and the membership committee. He is a mechanical engineering graduate of Oklahoma State University. The Halls live in Kingston, Tenn.


Hall

Hall will help direct the worldwide activities of the SME. Headquartered in Dearborn, Mich., the SME is an international organization with 40,000 members in 40 countries. A member of the World Federation of Engineering Organizations, the society's purpose is to advance scientific knowledge in the field of manufacturing engineering and to apply its resources to research, writing, publishing and disseminating such information through various educational media including conferences and expositions. The society also sponsors the worldwide manufacturing engineering certification program.

INVESTMENT MARKET TRENDS

Two account executives from Merrill Lynch will conduct an investment forum in Oak Ridge June 20 at 7 p.m. at the Oak Ridge Holiday Inn. They will interpret recent stock market trends. Ways you can evaluate your own investment program in terms of today's market will be discussed. If interested in attending, phone Clinton 457-4778, or Knoxville 546-4512.

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